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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,146	01/04/2002	Charles W. Berthoud	C.BERTHOUD 22	2400

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EXAMINER	
CHEN, TSE W	

ART UNIT	PAPER NUMBER
2116	

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/041,146	BERTHOUD, CHARLES W.	
	Examiner	Art Unit	
	Tse Chen	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 26, 2006 has been entered.

Claim Objections

2. Claims 15-16 are objected to because of the following informalities:

- As per claim 15, "said device selected from the group consisting of said central processing unit, said at least one peripheral device and said USB cable assembly" should be "said device comprising one of said central processing unit, said at least one peripheral device and said USB cable assembly" [cpu and a cable assembly as claimed can't indicate to a user by itself; peripheral device can't determine the transfer rate without the USB cable assembly].
- As per claim 16, "intrinsic performance indication system" should be "performance indication system".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 15-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant did not disclose the subject matter of "a rate discrimination subsystem that is configured to provide a determination of a data transfer rate of a ... subsequent USB standard signal". There is no indication in the disclosure of how one with ordinary skill in the art would be able to predict the future specification of the USB signal in order to construct/configure the rate discrimination subsystem. As such, Examiner submits that it would require undue experimentation for one with ordinary skill in the art to make/use of the claimed computer system.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential element(s), such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element(s) are: Applicant did not specifically identify the particular version of USB compatible with the claimed performance indication system. Examiner submits that different USB versions inherently have different characteristics [e.g., system requirements, performance] that would affect the scope of the claims. Prior art is still applied in the following rejections.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1, 3-4, 8-11 are rejected under 35 U.S.C. 102(a) as being anticipated by "CATC USB Chief Bus and Protocol Analyzer User's Manual", hereinafter Chief.

9. In re claim 1, Chief discloses a performance [e.g., speed] indication system for use with a USB signal capable of having a data transfer rate corresponding to at least a high-speed operation [full is high speed relative to low] [pp.4-5; pg.13; pg.17], comprising:

- A rate discrimination subsystem [analyzer with cables] configured to provide a determination of a data transfer rate [timing measurements] of said USB signal corresponding to a full speed operation [low] and a high speed operation [full] [pp.4-5; pg.13], said USB signal traversing through a USB terminator [analyzer with high impedance tap] [pg.17, 20].
- A condition indication subsystem [pc] coupled to said rate discrimination subsystem and configured to indicate said data transfer rate to a user [pg.4-5], wherein at least a portion of said performance indication system is contained in said USB terminator [pg.17; performance indication system as shown in the figure uses the signals at the terminated analyzer to indicate the transfer rate].

10. As to claim 3, Chief discloses, wherein at least a portion of said performance indication system is contained in a peripheral device [pg.3, 17; interface to short cable in peripheral required in order to operate].

11. As to claim 4, Chief discloses, wherein said condition indication subsystem employs a visual display [pc screen] to indicate said data transfer rate to said user [pp.4-5; pg.17].

12. In re claim 8, Chief discloses Chief taught each and every limitation of the claim as discussed above in reference to claim 1. Chief taught the performance indication system; therefore, Chief taught the method of operating the performance indication system. Chief discloses a method of operating a performance [e.g., speed] indication system for use with a USB signal capable of having a data transfer rate corresponding to at least a high-speed operation [full is high speed relative to low] [pp.4-5; pg.13; pg.17], comprising:

- Determining a data transfer rate of said USB signal corresponding to a full-speed operation and a high-speed operation as said USB signal traverses through a USB terminator [analyzer with high impedance tap] [pg.17, 20].
- Indicating said data transfer rate to a user employing said USB terminator [pg.17; performance indication system as shown in the figure uses the signals at the terminated analyzer to indicate the transfer rate].

13. As to claim 9, Chief discloses, wherein said USB terminator is part of a USB cable assembly [pg.20; cable with terminated analyzer is provided as part of cable assembly].

14. As to claim 10, Chief discloses, wherein said determining is performed in circuitry contained in said USB terminator [analyzer with high impedance tap] [pg.17; speed and other performance characteristics are determined from information sent from analyzer and indicated at the peripheral pc].

15. As to claim 11, Chief discloses, wherein at least a portion of said indicating said data transfer rate employs a visual display [pc screen] [pg.17].

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chief as applied to claim 1 above.

18. Chief discloses each and every limitation of the claim as discussed above. Chief did not disclose the rate discrimination subsystem and the condition indication subsystem are both contained in the USB terminator. Examiner hereby takes Official Notice that it is well known in the art to integrate digital components [i.e., combine the functionalities of the analyzer with the PC or vice versa into a modular device; the subsystems are essentially software components that can be performed by a general processor].

19. It would have been obvious to one of ordinary skill in the art, having the teachings of Chief before him at the time the invention was made, to modify the performance indication system taught by Chief to integrate the rate discrimination subsystem and the condition indication subsystem into a module, in order to obtain the performance indication system wherein the rate discrimination subsystem and the condition indication subsystem are both contained in the USB terminator. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to reduce part counts and simplify the system [e.g., less connections or setup].

20. Claims 5, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chief as applied to claim 1 above, and further in view of Davis et al., US Patent 5365577, hereinafter Davis.

21. Chief discloses each and every limitation of the claim as discussed above in reference to claim 1. Chief did not disclose explicitly that the condition indication subsystem employs an audio device.

22. Davis discloses a system wherein said condition indication subsystem [modem controller 346] employs an audible device [tone generator] to indicate a data transfer rate [bps] to a user [1412.5 and 2312.5 Hz distinguishing the different data rates are well within the human audible range of about 20-20000 Hz] [col.22, ll.1-28].

23. It would have been obvious to one of ordinary skill in the art, having the teachings of Chief and Davis before him at the time the invention was made, to modify the performance indication system taught by Chief to include the audible device of Davis, in order to obtain the performance indication system wherein at least a portion of said condition indication subsystem employs an audio device. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to output the operating status [Davis: col. 22, ll.1-28].

24. Claims 6, 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chief as applied to claim 1 above, and further in view of Kitagawa, US Publication 20030026183.

25. Chief disclose each and every limitation of the claim as discussed above in reference to claim 1. Chief did not disclose explicitly that the determination of the data transfer rate is based on an outcome of a chirping process.

26. Kitagawa discloses a performance indication system wherein the determination of a data transfer rate [speed] is based on an outcome of a chirping process [0032-0033].

27. It would have been obvious to one of ordinary skill in the art, having the teachings of Chief and Kitagawa before him at the time the invention was made, to modify the performance indication system taught by Chief to include the teachings of Kitagawa, in order to obtain the performance indication system wherein said determination of said data transfer rate is based on an outcome of a chirping process. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to determine a data transfer rate for correct operation [Kitagawa: 0006-0007].

28. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chief as applied to claim 1 above, and further in view of Kolbet et al., US Patent 6308215, hereinafter Kolbet.

29. Chief discloses each and every limitation of the claim as discussed above in reference to claim 1. Chief did not disclose explicitly that the rate discrimination subsystem employs a control signal associated with a USB signal for said determination of said data transfer rate [pg.13; D+, D- signal were not specifically described in detail].

30. Kolbet discloses a rate discrimination subsystem [part of logic block b1] employs a control signal [D+, D-] associated with a USB signal for said determination of said data transfer rate [col.4, ll.22-55].

31. It would have been obvious to one of ordinary skill in the art, having the teachings of Chief and Kolbet before him at the time the invention was made, to modify the performance indication system taught by Chief to include the teachings of Kolbet, in order to obtain the performance indication system wherein the rate discrimination subsystem employs a control

signal associated with a USB signal for said determination of said data transfer rate. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to determine a data transfer rate for correct operation [Kolbet: col.4, ll.22-55].

32. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chief as applied to claim 8 above, and further in view of Kolbet as applied to claim 7 above, and further in view of Donahue, US Patent 4837488.

33. Chief and Kolbet disclose each and every limitation of the claim as discussed above in reference to claims 7 and 8 [Chief discloses indicating the data transfer rate to a user while Kolbet specifically identifies the signals D+ and D- used for indicating the data transfer rate]. Chief and Kolbet did not disclose the determining and the indicating are performed in circuitry contained in the USB cable assembly.

34. Donahue discloses a method wherein a terminator [14] includes first and second light emitting diodes [e.g., red, green], the indicating employing the first light emitting diode to indicate an operation and the second emitting diode to indicate another operation [fig.3; col.6, ll.13-31, ll.45-61; signals such as D+ and D- can be connected to simple LEDs to indicate different speed operations].

35. It would have been obvious to one of ordinary skill in the art, having the teachings of Donahue, Chief and Kolbet before him at the time the invention was made, to modify the performance indication system taught by Chief and Kolbet to include the teachings of Donahue, in order to obtain the performance indication system wherein the USB terminator includes first and second light emitting diodes, the indicating employing the first light emitting diode to indicate the full speed operation and the second emitting diode to indicate the high speed

operation [signals such as D+ and D- can be connected to simple LEDs to indicate speed operation]. One of ordinary skill in the art would have been motivated to make such a combination as it provides a simple way to utilize LED circuits for those with moderate skill in the art for the diagnostic of cable characteristics [e.g., speed performance by monitoring signals such as D+ and D-] [Donahue: col.2, ll.3-15; col.6, ll.13-31].

36. Claims 15-16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chief as applied to claim 2 above, and further in view of Howard et al., US Patent 7007119, hereinafter Howard.

37. In re claim 15, Chief discloses a computer system [pg.17], comprising a central processing unit [pc] coupled to at least one peripheral device [usb device] by a USB cable assembly [pg. 17]; and a performance indication system, wherein said performance indication system is contained within a device, as discussed above in reference to claim 2, said device comprising one of said central processing unit, said at least one peripheral device and said USB cable assembly [e.g., pc contains cpu]. Chief did not disclose a USB 2.0 signal.

38. Howard discloses a computer system comprising a data transfer rate of a USB 2.0 signal corresponding to a full-speed operation [12 Mbps] and a high-speed operation [480 Mbps] [col.2, ll.36-60].

39. It would have been obvious to one of ordinary skill in the art, having the teachings of Chief and Howard before him at the time the invention was made, to modify the performance indication system taught by Chief to determine the rate of a USB 2.0 signal. One of ordinary skill in the art would have been motivated to make such a combination as USB 2.0 provides a higher communication speed that would encourage more adoption [Howard: col.2, ll.36-60].

40. As to claim 16, Chief discloses, wherein said USB cable assembly includes at least one USB terminator [analyzer with high impedance tap] [pg.20; cable with terminated analyzer is provided as part of cable assembly] and at least a portion of said performance indication system is contained in said at least one USB terminator [speed and other performance characteristics are determined from information sent from analyzer and indicated at the peripheral pc].

41. As to claim 18, Chief discloses, wherein said condition indication subsystem employs a visual display [pc screen] to indicate said data transfer rate to said user [pp.4-5; pg.17].

42. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chief and Howard as applied to claim 15 above, and further in view of Kelly et al., US Patent 6705527, hereinafter Kelly.

43. Chief and Howard disclose each and every limitation of the claim as discussed above in reference to claim 15. Chief and Howard did not discuss the details of determining the data transfer rate.

44. Kelly discloses a computer system wherein a central processing unit includes a physical interface having a control pin [e.g., cs1] and a rate discrimination subsystem [210] determines the data transfer rate based on an assertion or a de-assertion of said control pin [col.12, ll.35-47

45. It would have been obvious to one of ordinary skill in the art, having the teachings of Chief, Howard and Kelly before him at the time the invention was made, to modify the performance indication system taught by Chief and Howard to include the teachings of Kelly, in order to obtain the performance indication system wherein a central processing unit includes a physical interface having a control pin and a rate discrimination subsystem determines the data transfer rate based on an assertion or a de-assertion of said control pin. One of ordinary skill in

the art would have been motivated to make such a combination as it provides a way to determine a data transfer rate for correct operation [Kelly: col.12, ll.35-47].

46. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chief and Howard as applied to claim 15 above, and further in view of Kolbet.

47. Chief and Howard disclose each and every limitation of the claim as discussed above in reference to claim 15. Chief and Howard did not disclose explicitly that the rate discrimination subsystem employs a control signal associated with a USB 2.0 signal for said determination of said data transfer rate [pg.13; D+, D- signal were not specifically described in detail].

48. Kolbet discloses a rate discrimination subsystem [part of logic block b1] employs a control signal [D+, D-] associated with a USB signal for said determination of said data transfer rate [col.4, ll.22-55].

49. It would have been obvious to one of ordinary skill in the art, having the teachings of Chief, Howard and Kolbet before him at the time the invention was made, to modify the performance indication system taught by Chief and Howard to include the teachings of Kolbet, in order to obtain the performance indication system wherein the rate discrimination subsystem employs a control signal associated with a USB 2.0 signal for said determination of said data transfer rate. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to determine a data transfer rate for correct operation [Kolbet: col.4, ll.22-55].

Response to Arguments

50. Applicant's arguments dated June 26, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (571) 272-3672. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tse Chen
July 20, 2006

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